

#### ABSTRACT OF THE DISCLOSURE

A high temperature superconducting cable includes a tubular support and a plurality of superconducting tapes. The superconducting tapes are spirally wound onto the tubular support to form at least an electroinsulated, thermally-insulated, and refrigeratable superconducting layer. The superconducting tapes include a superconducting material enclosed in a metal covering. The superconducting tapes also include at least one metal strip coupled to the metal covering. A process for manufacturing high temperature superconducting cables is also disclosed.